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NOTES ON ANT LARVAE: PONERINAE

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Abstract.—The larvae of four species of ants in the genera *Platythyrea, Plectroctena* and *Streblognathus* are described. The larvae of *Streblognathus* and *Simopelta* are characterized for the first time. Included also are a few additional references to ponerine larvae found in the literature.

Most of this article is the result of a gift of the larvae of four species of African ants from Martin Villet of the University of Witwatersrand in Johannesburg. All these larvae seem weird even to seasoned students of 800 species in 200 genera. *Streblognathus,* which has never been previously studied has unique maxillae and tubercles, which are queer even in a tribe noted for peculiar tubercles. *Platythyrea lamellosa* has hairs which are unique among all known ant larvae; in fact, if they did not have alveolus and articular membrane we would call them tubercles. Even among tubercles they would be unique. *Plectroctena conjugata* has about 1,600 tubercles, which exceeds by far the number in any other species of ant larvae.

Because of Brown's 1975 revision of *Platythyrea* the nomenclature of the species we have studied has become quite confused. The following changes should therefore be made:—*australis* in 1971 becomes *parallela*; *incerta* in 1971 becomes *pilosula*; *Eubothroponera tasmaniensis* in 1971 becomes *Platythyrea turneri.* Under MATERIAL STUDIED in our 1976b *Memoir* (p. 97) change *australis* Forel to *parallela* (F. Smith) and *incerta* Emery to *pilosula* (F. Smith). In our Ten-Year Supplement (1986b) under MATERIAL STUDIED (p. 699) delete *tasmaniensis* (Forel) and "delete *australis, incerta.*" To summarize, the six species of *Platythyrea* that we have studied previously are *cribrinodis* (Gerstäcker), *inermis* Forel, *modesta* Forel, *parallela* (F. Smith), *pilosula* (F. Smith) and *turneri* Forel.

In 1976a (p. 59) we used the name *Plectroctena* sp. It should be changed to *Plectroctena cryptica* Bolton.

We described a mature larva of one species of *Simopone* in 1986a, but we did not characterize the genus, because we hoped that someone would send us the mature larva of another species. Thus far we have hoped in vain.

The terms used below for describing profiles and mandible shapes are defined in our 1976 *Memoir.* Whenever we refer to our own publications we give only the year.

TRIBE AMBLYOPONINI

Genus *PRIONOPELTA* Mayr

Prionopelta amabilis Borgmeier

Hölldobler and Wilson (1986:45). "The prey are given directly to the larger larvae."

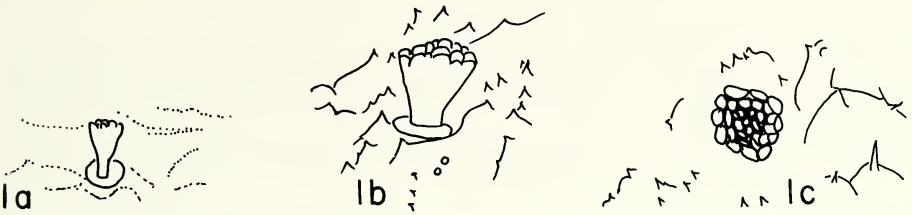


Fig. 1. *Platythyrea lamellosa.* a, Prothoracic hair, ×254; b, typical body hair in side view, ×254; c, typical body hair in surface view, ×254.

TRIBE CYLINDROMYRMECINI

Genus *Cylindromyrmex* Mayr

Cylindromyrmex williamsi Wheeler

W. M. Wheeler (1924:104) described the larvae as very long and slender, with narrow, curved neck and small head; the body lacked tubercles and was covered with numerous short even hairs.

TRIBE PLATYTHYREINI

Genus *PLATYTHYREA* Roger

Platythyrea lamellosa Roger
Fig. 1

Mature (?) larva. Length (through spiracles) 8.8–12.1 mm. Profile platythyreoid. Similar to *P. inermis* (1952:118) except as follows. Ends of body not so strongly curved ventrally and tail blunter, ventral tubercles feeble. Leg and wing vestiges present. Integument spinulose, the spinules numerous and on short transverse ridges. Body hairs sparse, short (about 0.025 mm long), narrower at the base and wider at the top; narrower on T1 (0.005 mm at base and 0.012 mm at the top), elsewhere wider (0.012 mm at base and 0.03 mm at top); top surface covered with rounded, closely packed projections. Head hairs longer (about 0.025 mm long), moderately numerous, unbranched, slender. Labrum longer than broad, with apex narrowly paraboloidal; posterior surface densely spinulose, the spinules so long and the rows so close together that the spinules overlap. Mandible with middle half of all surfaces spinulose, the spinules isolated and rather small. Maxillary apex with spinules large and isolated; palp with 5 sensilla. Opening of sericteries a narrow transverse slit. Hypopharynx densely spinulose, the spinules coarse and isolated.

Material studied. 4 larvae from E. Sigodink, Zimbabwe, courtesy of Martin Villet.

Platythyrea schultzi Forel

Length (through spiracles) 5.7–7.1 mm. Profile platythyreoid, i.e., similar to *P. cribrinodis* (1971:1198). Similar to *P. inermis* except in the following details. Swellings on venter of AIV–AVII only. Integument with 2 sizes of spinules: (1) numerous, minute and frequently in rows; (2) fewer, larger and isolated. Body hairs 0.013–0.075

mm long. Head hairs few (about 36) and about 0.013 mm long. Labrum with breadth equal to length; anterior and ventral surfaces with about 40 hairs (0.013 mm long) and spinulose sensilla; the spinules on the posterior surface isolated and rather large. Maxillary palp with 5 (3 terminal and 2 lateral) sensilla. Labial palp with 5 (2 apical, 2 subapical and 1 basal) sensilla.

Material studied. 5 larvae from Republic of South Africa, courtesy of Martin Villet.

TRIBE PONERINI

Genus *HYPOPONERA* Santschi

Characterization. 1971:1210. Change "Antennae large" to "Antennae minute."

Genus *PLECTROCTENA* F. Smith

In our 1986b Ten-Year Supplement the specialization index should be changed to 14.

Plectroctena conjugata Santschi

Mature larva. Length (through spiracles) 9.6–14.2 mm. Similar to *P. cryptica* (1976a: 59) except as follows. Neck more slender and curved. Body beset with about 1,600 tubercles, most numerous on AIV–AVI, 0.03–0.39 mm tall, hairs 0.06 mm long. Spiracles on T2 0.054 mm in diameter, decreasing posteriorly. Spinules on integument isolated and coarser posteriorly and dorsally. Body hairs about 0.025 mm long, unbranched, smooth, confined to each ventrolateral surface (8 on T1, 4 on T2, 4–6 on T3). Head hairs moderately numerous (about 44) and longer (0.025 mm long). Apical tooth of mandible curved abruptly medially. Maxilla with large isolated spinules apically, smaller near base of palp and galea; palp a tall cylinder; galea taller and with more slender apex. Labial palp taller.

Submature larva. Length (through spiracles) 6.9–9.0 mm. Similar to mature larva except as follows. Tubercles fewer (about 1,400). Head hairs fewer (about 30). Medial teeth of mandible reduced. Ventral border of labium trilobed; opening of sericteries not salient.

Material studied. 5 larvae from Mkuzi Game Reserve, Natal, courtesy of Martin Villet.

Genus *SIMOPELTA* Mayr

Profile myrmecioid (i.e., elongate and rather slender; curved ventrally; without a differentiated neck; diameter greatest at sixth abdominal somite, decreasing gradually toward the anterior end and more rapidly toward the posterior end). Spiracles minute. Body hairs lacking. Cranium longitudinally subelliptical and sclerotized. Head hairs lacking. Mandible dinoponeroid (i.e., narrowly subtriangular, distal portion strongly curved posteriorly and slightly curved laterally, with one blunt medial tooth).

In our 1986b Ten-Year Supplement this genus keys to "Profile 5. Myrmecioid" to which must be added a new rubric "1 g. Mandibles dinoponeroid."

The specialization index is 18.

Genus *STREBLOGNATHUS* Mayr

Profile pogonomyrmecoid but more slender and with a long slender neck. Body beset with numerous (about 300) tubercles; typical tubercle a slender spirelike subcone; integument with isolated spinules. Body hairs lacking. Cranium subhexagonal. Head hairs moderately numerous, minute, unbranched. Mandible ectatommoid; blade small; apical tooth curved slightly posteriorly; anterior surface sparsely spinulose. Maxilla divided into (1) a raised area bearing palp and galea and (2) a lobose apex; palp a dorsally curved subcylinder with 13 apical sensilla. Labial palp with 5 sensilla.

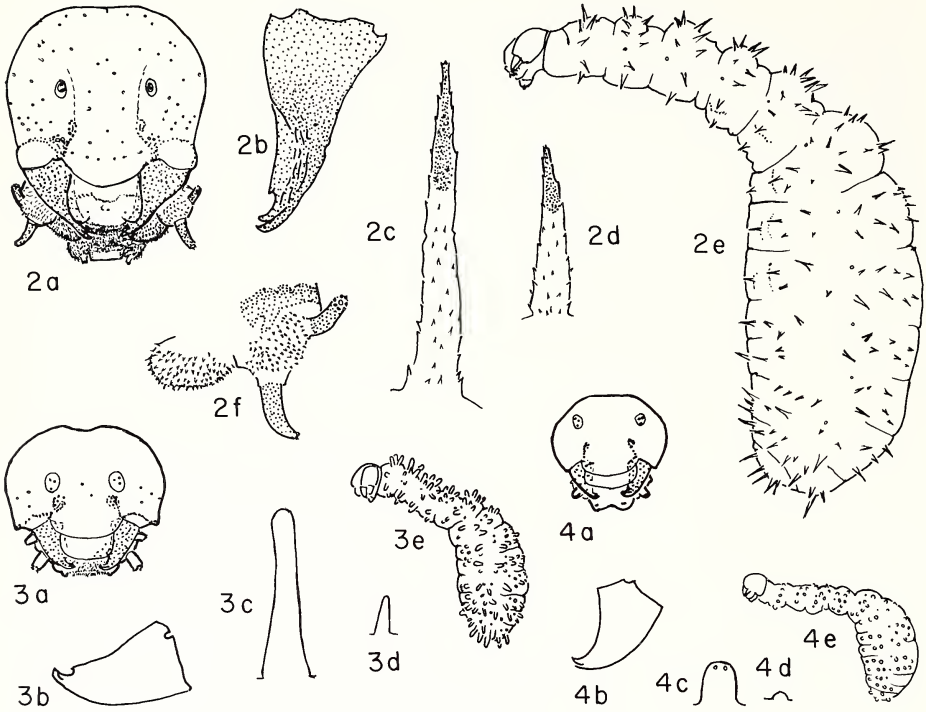
In our 1976 *Memoir* this genus keys to "Profile 1. Pogonomyrmecoid" under which it fits rubric 23 c.

The specialization index is 14.

Streblognathus aethiopicus (F. Smith)
Figs. 2–4

Mature larvae. Length (through spiracles) 13.5–16.8 mm. Profile pogonomyrmecoid (neck formed from thorax, AI and AII); ventral profile of remainder of abdomen nearly straight, anus ventral. Leg and wing vestiges present. Body beset with numerous (about 300) tubercles; typical tubercle a slender spirelike subcone; integument with isolated spinules; tubercles shortest on thorax (up to 0.4 mm) and longest (0.78 mm) near anus. Ten pairs of spiracles of equal size. Integument spinulose, the spinules more numerous and in transverse rows ventrally, elsewhere isolated, and less numerous posteriodorsally, absent around bases of tubercles. Body hairs lacking. Cranium subhexagonal. Antennae at midlength of cranium. Head hairs moderately numerous (about 60), minute (0.003–0.008 mm long), unbranched, smooth and slender. Labrum subrectangular but with base feebly constricted, with about 25 sensilla concentrated near lateral surfaces; with each ventrolateral surface slightly raised and bearing 3 scattered sensilla; ventral surface feebly convex and densely spinulose with 4 isolated and 2 clusters of 3 sensilla each; posterior surface spinulose, the spinules large and isolated basomedially and ventrolaterally, elsewhere slender and in short arcute rows. Mandible ectatommoid, slender; heavily sclerotized; blade slender; apical tooth curved medially and slightly posteriorly; subapical tooth partially anterior to apical tooth, small basal tooth blunt; anterior surface with short isolated spinules directed laterally. Maxilla divided into (1) a raised area (bounded basally by a sclerotized band) bearing palp and galea and (2) a lobose apex; entire integument spinulose, the spinules rather coarse and isolated; palp a dorsally curved subcylinder with about 13 (12 with a spinule each and 1 encapsulated) sensilla; palp digitiform with 2 apical sensilla. Labium densely spinulose, the spinules large and isolated; transverse basal welt densely spinulose, the spinules slender and in short transverse rows; palp paxilliform with 5 (4 with a spinule and 1 encapsulated) sensilla; opening of sericteries wide and salient. Hypopharynx densely spinulose, the spinules short and in short to long transverse rows.

Young larvae. Length (through spiracles) 5.1–5.9 mm. Similar to mature larva except as follows. Body with about 250 tubercles which are conoidal or subcylindrical with rounded top, lacking integumentary spinules. Spiracles set on small tubercles. Dorsal profile of head concave. Mandible lacking spinules on anterior surface. Maxillary spinules smaller; palp a short frustum directed slightly ventrally. Labium tri-



Figs. 2–4. *Streblognathus aethiopicus.* 2. MATURE LARVA. a, Head in anterior view; ×21; b, left mandible in anterior view, ×50; c, AX tubercle, ×41; d, thoracic tubercle, ×41; e, larva in side view, ×6; f, left maxilla in anterior view, ×50. 3. YOUNG LARVA. a, Head in anterior view, ×21; b, left mandible in anterior view, ×50; c, AX tubercle, ×41; d, thoracic tubercle, ×41; e, larva in side view, ×6. 4. VERY YOUNG LARVA. a, Head in anterior view, ×21; b, left mandible in anterior view, ×50; c, AX tubercle, ×41; d, thoracic tubercle, ×41; e, larva in side view, ×6.

lobed and with smaller spinules; palp paxilliform. Hypopharynx with smaller spinules.

Very young larvae. Length (through spiracles) 4.0–4.3 mm. Similar to mature larva except as follows. About 160 tubercles, reduced to rounded knobs. Spiracles set on rounded tubercles similar to other tubercles. Mandible lacking medial tooth and surface spinules. Maxillary palp a rounded knob; galea a short subcylinder. Labium bilobed; palp a slight elevation; opening of sericteries a narrow slit. Hypopharynx with numerous minute spinules.

Material studied. 12 larvae from Vernon Crookes N. R. nr. Scotburgh, Natal, Republic of South Africa, courtesy of Martin Villet.

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